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LIST OF ABBREVIATIONS, ACRONYMS & DEFINITIONS

45 SW – 45th Space Wing

45 SW/RANS/DS – Range Scheduling

45 SW/LG- 45th Logistics Group

45 SW/MDG- 45th Medical Group

45 SW/OPG- 45th Operations Group

45 and 30 SW/SE - 45th Space Wing, Office of the Chief of Safety; see also Office of the Chief of Safety

45 SW/SEG - 45th Space Wing, Ground Safety

45 SW/SEO - 45th Space Wing, Mission Flight Control and Analysis

45 SW/SEOE - 45th Space Wing, Expendable Launch Vehicle Operations Support and Analysis

45 SW/SEOO - 45th Space Wing, Mission Flight Control

45 SW/SEOS - 45th Space Wing, Space Transportation System Operations Support and Analysis

45 SW/SES – 45th Space Wing, Systems Safety

45 SW/SESP – Classified Payloads

45 SWSPTG- 45th Support Group

45 SW/XPR – 45th Space Wing, Plans & Requirements

AF - Air Force

AFETR - Air Force Eastern Test Range

AFOSH – Air Force Occupational Safety and Health

AFI - Air Force Instruction

AGC - Automatic Gain Control

ALD – Assistant Launch Director

ANT - Antigua Air Station

approval - Range Safety approval is the final approval necessary for data packages such as the Preliminary Flight Data Package, the Final Flight Data Package, the Missile System Prelaunch Safety Package, the Range Safety System Report, the Ground Operations Plan, and the Facility Safety Data Package. In addition, Range Safety approval is required for hazardous and safety critical procedures prior to the procedure being performed; however, Range Safety approval does not constitute final approval for hazardous and safety critical procedures since Range Users normally have additional approval requirements prior to the procedure being performed.

ARIA - Advanced Range Instrumentation Aircraft

ARG - Argentia

ARTCC – Air Route Traffic Control Center

ASC - Ascension Auxiliary Air Field

AST - Associate Administrator for Commercial Space Transportation

ATOTS - Advanced Transportable Optical Tracking Systems

CATEX - Categorical Exclusion

CCAS - Cape Canaveral Air Station

CCC - Central Computer Complex

CCD - Charged Coupled Device

CCFF – Cape Canaveral Forecast Facility

CCRS - Central Command Remoting System

C/D – Countdown Net

CDR – Critical Design Review

CDS - Command destruct System

CFR – Code of Federal Regulations

CIF - Central Integration Facility

CMEV - Command Message Encoder Verifier

COLA – Collision Avoidance

commercial user - a non-federal government organization that provides launch operations services

control authority - a single commercial user on-site director and/or manager, a full time government tenant director and/or commander, or United States Air Force squadron/detachment commander responsible for the implementation of launch complex safety requirements

CSC – Command System Controller

CSO – Complex Safety Officer

deviation - a designation used when a design noncompliance is known to exist prior to hardware production or an operational noncompliance is known to exist prior to beginning operations at CCAS and Vandenberg Air Force Base

DoD - Department of Defense

DoDD - Department of Defense Directive

^{0} - degree, degrees

DOAMS - Distant Object Attitude Measurement System

EELV - Evolved Expendable Launch Vehicle

EIAP - Environmental Impact Analysis Process

EIS - Environmental Impact Statement

ELV - Expendable Launch Vehicle

EPC - Environmental Protection Committee

ER - Eastern Range

errant launch vehicle -a launch vehicle that, during flight, violates established flight safety criteria and/or operates erratically in a manner inconsistent with its intended flight performance. Continued flight of an errant launch vehicle may grossly deviate from planned flight, with the possibility of increasing public risk to unacceptable limits.

EWR – Eastern and Western Regulation

explosive quantity distance site plans - a formal plan for explosives facilities and areas required in accordance with AFM 91-201 and DoD 6055.9-STD detailing explosives quantity operating and storage limits and restrictions and resultant distance clearance requirements

explosives - all ammunition, demolition material, solid rocket motors, liquid propellants, pyrotechnics, and ordnance as defined in AFM 91-201 and DoD 6055.9-STD.

failure - the inability of a system or system component to perform a required function within specified limits

FCA – Flight caution Area

Flight Caution Area - a Hazardous Launch Area; the controlled surface area and airspace outside the Flight Hazard Area (FHA) where individual risk from a launch vehicle malfunction during the early phase of flight exceeds 1×10^{-6}. When activated, only personnel essential to the launch operation (mission-essential) with adequate breathing protection are permitted in this area; see also Flight Hazard Area, mission-essential personnel

FHA – Flight Hazard Area

Flight Hazard Area - a Hazardous Launch Area; the controlled surface area and airspace about the launch pad and flight azimuth where individual risk from a malfunction during the early phase of flight exceeds 1×10^{-5}. Because the risk of serious injury or death from blast overpressure or debris is so significant, only mission-essential personnel in approved blast-hardened structures with adequate breathing protection are permitted in this area during launch.

FONSI - Finding of No Significant Impact

FPA – Flight Plan Approval

flight termination action - the transmission of thrust termination and/or destruct commands to a launched launch vehicle and/or payload

FTS - Flight Termination Systems

FTS - Flight Termination System; includes the Radio Controlled Command Destruct System, the Automatic Destruct System, and associated subsystems

FTU - Flight Termination Unit

GHz - Gigahertz

GSE – Ground Support Equipment

GTO - Geotransfer Orbit

hangfire - a condition that exists when the ignition signal is known to have been sent and reached an initiator but ignition of the propulsion system is not achieved

hazard, hazardous - equipment, systems, events, and situations with an existing or potential condition that may result in a mishap

HF - High Frequency

hold - a temporary delay in the countdown, test, or practice sequence for any reason

holdfire - an interruption of the ignition circuit of a launch vehicle

HQ - Headquarters

HPWT – High Performance Work Team

IFLOT - Intermediate Focal Length Optical Tracker

IGOR - Intercept Ground Optical Recorders

IIP – Instantaneous Impact Point

ILL - Impact Limit Line

imminent danger - any condition, operation, or situation that occurs on the Range where a danger exists that could reasonably be expected to cause death or serious physical harm, immediately or before the imminence of such danger can be eliminated through control procedures; these situations also include health hazards where it is reasonably expected that exposure to a toxic substance or other hazard will occur that will cause harm to such a degree as to shorten life or cause a substantial reduction in physical or mental efficiency even though the resulting harm may not manifest itself immediately

impact area - an area surrounding an approved impact point based on the launch vehicle and/or payload dispersion characteristics

impact limit line - a Hazardous Launch Area; the boundary within which trajectory constraints and FTSs are used to contain an errant launch vehicle and vehicle debris. Mission-essential and Wing-essential personnel are permitted within the ILLs; with Wing Commander approval, non-essential personnel may be permitted within this area. However, the collective risk will not exceed acceptable standards for non-essential personnel; see also mission-essential personnel, non-essential personnel

independent - not capable of being influenced by other systems

individual risk - the risk to a randomly exposed individual; the probability that the

individual will be a casualty

INSRP – Interagency Nuclear Safety Review Panel

ITL - Integrate-Transfer-Launch

JDMTA - Jonathan Dickinson Missile Tracking Annex

JLRPG - Joint Long Range Proving Grounds

KSC - Kennedy Space Center

KTM - Kineto Tracking Mounts

LASP – Launch Abort Subpanel

launch area - the facility, in this case, CCAS and KSC, where launch vehicles and payloads are launched; includes any supporting sites on the Eastern Range; also known as launch head

launch area safety - safety requirements involving risks limited to personnel and/or property on CCAS and may be extended to KSC or VAFB; involves multiple commercial users, government tenants, or United State Air Force squadron commanders

launch complex - a defined area that supports launch vehicle or payload operations or storage; includes launch pads and/or associated facilities

launch complex safety - safety requirements involving risk that is limited to personnel and/or property located within the well defined confines of a launch complex, facility, or group of facilities; for example, within the fence line; involves risk only to those personnel and/or property under the control of the control authority for the launch complex, facility, or group of facilities

launch head - see launch area

launch vehicle - a vehicle that carries and/or delivers a payload to a desired location; this is a generic term that applies to all vehicles that may be launched from the Eastern Range, including but not limited to airplanes; all types of space launch vehicles, manned space vehicles, missiles, and rockets and their stages; probes; aerostats and balloons; drones; remotely piloted vehicles; projectiles, torpedoes and air-dropped bodies

LBS - Launch base Support

LCC – Launch Commit Criteria

LD – Launch Director

LDZ – Launch Danger Zone

lead time - the time between the beginning of a process or project and the appearance of its results

LRR – Launch Readiness Review

LWO – Launch Weather Officer

MARSS - Meteorological and Range Safety System

MIC - meets intent certification; a noncompliance designation used to indicate that an equivalent level of safety is maintained despite not meeting the exact requirements stated in this Regulation

MIGOR - Mobile Intercept Ground Optical Recorders

MILA - Merritt Island Launch Area

misfire - a condition that exists when it is known that the ignition signal has been sent but did not reach an initiator and ignition of the propulsion system was not achieved

mission-essential personnel - those persons necessary to successfully and safely complete a hazardous or launch operation and whose absence would jeopardize the completion of the operation; includes persons required to perform emergency actions according to authorized directives, persons specifically authorized by the Wing Commander to perform scheduled activities, and person in training; the number of mission-essential personnel allowed within Safety Clearance Zones or Hazardous Launch Areas is determined by the Wing Commander and the Range User with Range Safety concurrence

Mission Rules - a document of agreements between the Range User and Range Director specifying, in detail, those requirements and procedures not covered by this document

MFCO - Mission Flight Control Officer - a United States Air Force Officer or civilian who monitors the performance of launch vehicles in flight and initiates flight termination action when required; the direct representative of the Range Commander during the prelaunch countdown and during launch vehicle powered flight

MOTS - Mobile Optical Tracking System

MSPSP – Missile System Prelaunch Safety Package

MSU - Message Storage Unit

NASA - National Aeronautics and Space Administration

NASCOM - NASA Communications Network

NEPA - National Environmental Policy Act

nominal vehicle - a properly performing launch vehicle whose instantaneous impact point (IIP) does not deviate from the intended IIP locus

noncompliance - a noticeable or marked departure from Regulation standards or procedures; includes deviations, meets intent certifications, and waivers

non-essential personnel - those persons not deemed mission-essential or Wing-essential; includes the general public, visitors, the media, and any persons who can be excluded from Safety Clearance Zones with no effect on the operation or parallel operations

NORAD – North America Defense Command

NOTAMS – Notices to Airmen

NOTMARS – Notices to Mariners

OD - Operations Directive

Office of the Chief of Safety - the Range office headed by the Chief of Safety; this office ensures that the Range Safety Program meets Range and Range User needs and does not impose undue or overly restrictive requirements on a program

OPR - Office of Primary Responsibility

OR - Operations Requirements

orbital injection (insertion) - the sequence of events in time and space, whereby a vehicle achieves a combination of velocity and position such that without additional thrust at least one orbit of the earth will be made

OSM – Operations Security Manager

OST – Operations safety Technician

PAFB - Patrick Air Force base

payload - the object(s) within a payload fairing carried or delivered by a launch vehicle to a desired location or orbit; a generic term that applies to all payloads that may be delivered to or from the Eastern Range; includes but is not limited to satellites, other spacecraft, experimental packages, bomb loads, warheads, reentry vehicles, dummy loads, cargo, and any motors attached to them in the payload fairing

PCC - Photo Control Console

PCM - Pulse Code Modulation

PDR – Preliminary Design Review

PI - Program Introduction

PL - public law

positive control - the continuous capability to ensure acceptable risk to the public is not exceeded throughout each phase of powered flight or until orbital insertion

PRD - Program Requirements Document

program - the coordinated group of tasks associated with the concept, design, manufacture, preparation, checkout, and launch of a launch vehicle and/or payload to or from, or otherwise supported by the Eastern Range and the associated ground support equipment and facilities

PSP - Program Support Plan

public safety - safety involving risks to the general public of the United States or foreign countries and/or their property

Range - in this document, Range refers to the Eastern Range at CCAS, KSC, PAFB, JDMTA, ANT & ASC.

Range Commander - Commander of the Eastern Range in accordance with DoDD 3200.11; sometimes called Range Director, when interfacing with commercial Range Users.

NOTE: Currently, the 45 SW Commander is also the Range Commander and Range Director

Range Contractor - the Launch Base Support and Range Technical Services contractors and all subcontracted agencies required for operation and maintenance of the ER and similar contractors at the WR. For the purposes of this regulation, the term Range Contractor also refers to NASA and KSC contractors as applicable

Range Safety Launch Commit Criteria - hazardous or safety critical parameters, including, but not limited to, those associated with the launch vehicle, payload, ground support equipment, Range Safety System, hazardous area clearance requirements, and meteorological conditions that must be within defined limits to ensure that public, launch area, and launch complex safety can be maintained during a launch operation

Range Safety Program - a program implemented to ensure that launch and flight of launch vehicles and payloads present no greater risk to the general public than that imposed by the overflight of conventional aircraft; such a program also includes launch complex and launch area safety and protection of national resources

Range Safety System - the system consisting of the airborne and ground flight termination systems, airborne and ground tracking system, and the airborne and ground telemetry data transmission systems

Range Users - clients of the Cape Canaveral Air Station, such as the Department of Defense, non-Department of Defense US government agencies, civilian commercial companies, and foreign government agencies that use Eastern Range facilities and test equipment; conduct prelaunch, launch, and impact operations; or require on-orbit support.

RAPCON – Radar Approach and Control

RASCAD - Range Safety Control and Display

RCO – Range Control Officer

RF - Radio Frequency

risk - a measure that takes into consideration both the probability of occurrence and the consequence of a hazard to a population or installation. Risk is measured in the same units as the consequence such as number of injuries, fatalities, or dollar loss. For Range Safety, risk is expressed as casualty expectation or shown in a risk profile; see also collective risk and individual risk.

risk analysis - a study of potential risk

ROC – Range Operations Commander

ROCC - Range Operations Control Center

ROTI - Recording Optical Tracking Instrument/

RSA - Range Standardization and Automation

RSDS - Range Safety Display System

RSOR - Range Safety Operating Requirements

RTS - Range Tracking System

RUSSDPA – Range User Systems Safety Data Package Approval

Safety Clearance Zones - restricted areas designated for day-to-day prelaunch processing and launch operations to protect the public, launch area, and launch complex personnel; these zones are established for each launch vehicle and payload at specific processing facilities, including launch complexes; includes HCA and HLA

safety holds - the holdfire capability, emergency voice procedures, or light indication system of each launch system used to prevent launches in the event of loss of Range Safety critical systems or violations of mandatory Range Safety launch commit criteria

SC - Statement of Capability

SCO – Surveillance Control Officer

SDR – System Design Review

SELV - Small Expendable Launch Vehicle

SLBM - Sea Launched Ballistic Missiles

SLC - Space launch Complex

SLF - Shuttle Landing Facility

SMAB - Solid Motor Assembly Building

SMARF - Solid Motor Assembly and Readiness Facility

SMC - Space & Missile Systems Center

SMFCO – Senior Mission Flight Control Officer

SMILS - Sonar Buoy Missile Locator Impact System

space safety professional - a safety professional who has been trained and formally certified to meet the criteria outlined in the Launch Complex Safety Training and Certification Program Document

SPARC - Single Point Acquisition and Radar Control

SPF - Space Port Florida Authority

SRR – System requirements Review

STS - Space Transportation System

TIM - Technical Interchange Meeting

transponder - the portion of the airborne Range tracking system that receives and decodes interrogations and generates replies to the interrogations. The transponder

permits the ground instrumentation radar to furnish significantly greater precision and accuracy data at much greater distances and prevents mistracking of powered vehicles due to interference of exhaust plumes or spent stages

TSO – Telemetry Systems Officer

UCS - Universal Camera Sites

UDS - Universal Documentation System

US - United States

USAF – United States Air Force

USCG – United States Coast Guard

UHF - Ultra High Frequency

VAFB - Vandenberg Air Force base

VDL – Voice Direct Lines

VHF - Very High Frequency

VIB - Vertical Integration Building

VP – Vertical Plane

VRP - Video Remote Patch

VWSS – Vertical Wire Skyscreen

waiver - a designation used when, through an error in the manufacturing process or for other reasons, a hardware noncompliance is discovered after hardware production, or an operational noncompliance is discovered after operations have begun at the Eastern Range

Wing Commander - see Range Commander